GRADE STABILIZATION STRUCTURE DESIGN AND CHECK SHEET - HOOD INLET

Cooperator: _____ Location: _____

Conservation District: _____ Field Office: _____

Identification No.: _____ Field No.: _____ Gully No.: _____ Str. No.: _____

Top of Fill El. _____

Emergency Spillway El. _____

Tailwater (TW) El._____

Outlet El. _____

Pipe Inv. El. _____

Natural Ground El. __ _____

Design HW El. _____

Weir El. _____

Pipe Invert El. _____

Box Invert El. _____

Flow

Antiseep collar required [ ] Yes [ ] No
(If yes, show location and number on sketch.)

Antivortex baffle required [ ] Yes [ ] No
(If yes, attach requirements.)

Drainage Area = _____ acres   Required Q (peak) = _____ cfs

Pipe diameter, d = _____ in.   Pipe Area, a = _____ sq.ft.   Pipe length, L = _____ ft

Coefficient of roughness n = _____   Head loss coefficient, Kp = _____

Entrance loss coefficient, Ke = 1.0

Weir head, h = HW El._____ - Weir El. _____ = _____ ft.

H = HW El. _____ – TW El.[1] _____ = _____ ft.

Design Discharge (Q_D) = $a \sqrt{\dfrac{2gH}{1+Ke+KpL}}$ = _____ cfs   Must be $\geq Q_R$

Weir length required, $L = \dfrac{Q_D}{C\,(h^{1.5})} = \dfrac{}{(\quad)(\quad)^{1.5}}$ = _____ ft   Use box size _____ ft by _____ ft

[1] Use the higher elevation of TW El. or 0.75 pipe diameter above pipe outlet invert.

Note: The design flow elevation over the weir must $\geq$ 1.8 d + pipe inlet invert.

Designed By: _____ Date: _____ Checked By:_____ Date: _____

Approved By:_____ Date: _____

Construction Check

	Pipe Diam, in.	Pipe Length, ft	Inlet Invert Elev., ft.	Outlet Invert Elev., ft.	Top Fill Elev., ft.	Weir Length, ft.	Weir Elev. ft.
Planned							
Check							

Type of pipe: _____ Gage: _____

Type of connecting bands: _____

Condition of vegetation: _____

Comments: _____

This practice meets NRCS standards and specifications. _____ Date: _____
                                                                                 (Signature)